User's Manual

VA series

Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

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Cajas acústicas pasivas / Passive loudspeaker enclosures

Conserve y lea todas estas instrucciones.
Siga todas las advertencias.
El signo de exclamación dentro de un triángulo indica la existencia de componentes internos cuyo reemplazo puede afectar a la seguridad.

Keep these instructions.
Heed all warnings. Follow all instructions.
The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety.

El doble cuadrado indica equipo de Clase II.

The double square indicates Class II device.

Las especificaciones se encuentran en la etiqueta de la parte posterior del producto.

The specifications can be found on the rear label of the product.

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado.

The appliance should be flown only from the rigging points and by qualified personnel.

Equipo IP-54 según la norma IEC 60529: 1989 + M1 @ 1999.

IP-54 equipment (IEC 60529: 1989 + M1 @ 1999).

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.

This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Equipo diseñado para funcionar entre -25ºC y 70ºC. La humedad relativa máxima del 95% con 40ºC de temperatura ambiente.

Working temperature ranges from -25ºC to 70ºC. The maximum relative humidity of 95% with ambient temperature 40ºC.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida o el uso de cables flexibles ya preparados.

The outer wiring connected to the device requires installation by an instructed person or the use of a flexible cable already prepared.

El equipo cuenta con dos conectores de entrada en paralelo para facilitar la conexión de varias cajas en paralelo.

Note that the two Speakon input connectors are wired in parallel to provide easy parallel connection of several enclosures.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.

Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el aparato se haya dañado de alguna forma, tal como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente o haya recibido un golpe.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Limpie con un paño seco. No use limpiadores con disolventes.

Clean only with a dry cloth. Do not use any solvent based cleaners.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All D.A.S. products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.

DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY

D.A.S. Audio, S.A.
C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España (Spain).

Declara que la ***serie VA***:
Declares that ***VA series***:

Cumple con los objetivos esenciales de las Directivas:
Abide by essential objectives relating Directives:

- Low Voltage Directive 2006/95/EC

- Regulation (EU) No 305/2011 - Constrution Products
  (Certificate of Constancy of Performance: 0359-CPR-00430)

Y es conforme a las siguientes Normas Armonizadas Europeas:
In accordance with Harmonized European Norms:

- EN 60065:2002 +A1:2006 + A11:2008 + A2:2010 + A12:2011
  Audio, video and similar electronic apparatus. Safety requirements.

- EN 54-24:2008
  Fire detection and fire alarm systems. Part 24: Components of voice alarm systems. Loudspeakers.

INTRODUCTION

The *VA series* is a line-up of two way systems for background / foreground music and paging applications that are both compact in size and light in weight.

Ideal for reproducing music program in retail stores, lounges, boutiques, board-rooms, airports and convention centers.

The *VA series* is EN54-24 compliant for special applications such as evacuation solutions.

The *VA series* is composed of two models, the *VA-4T*, a single 4" speaker working with a tweeter and the *VA-24T* with two 4" speakers working with a tweeter.

The 4" woofer incorporates a weather resistant polypropylene cone and 1" voice coil.

The high frequency reproduction is handled by a 19mm neodymium dome tweeter for brilliant highs.

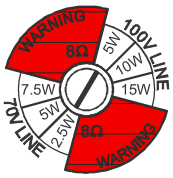
The high impact ABS enclosure is 5VB ratio inflammability rated and UV resistant.

The units have a rust-proof grille internally lined with acoustically transparent filter cloth to protect the loudspeaker components. The filter is resistant to wear and tear, provides protection from dust and dirt.

A rotary switch and a multi-tap transformer allow the user to choose among several output impedance solutions.

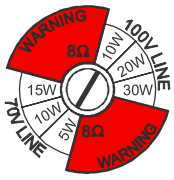
for the *VA-4T*:

.- 8 ohms.
.- 5W/100V line.
.- 10W/100V line.
.- 15W/100V line.
.- 2.5W/70V line.
.- 5W/70V line.
.- 7.5W/70V line.



for the *VA-24T*:

.- 8 ohms.
.- 10W/100V line.
.- 20W/100V line.
.- 30W/100V line.
.- 5W/70V line.
.- 10W/70V line.
.- 15W/70V line.

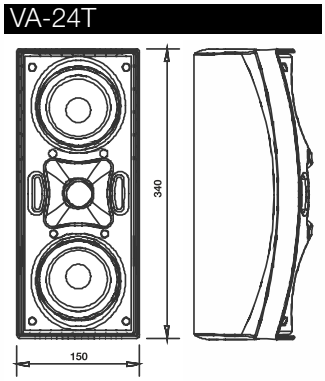


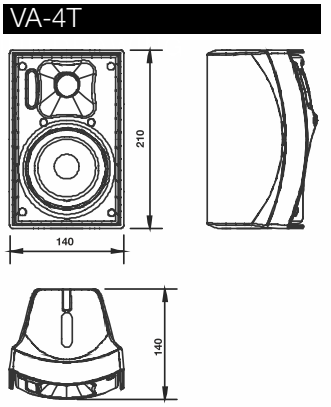
The cabinets are equipped with 4 M6 rigging points and a safety cable attachment point.

Main features:

.- Molded high-impact ABS enclosures.
.- Available in black or white color options.
.- Small size and ready to paint exterior.

LINE DRAWINGS



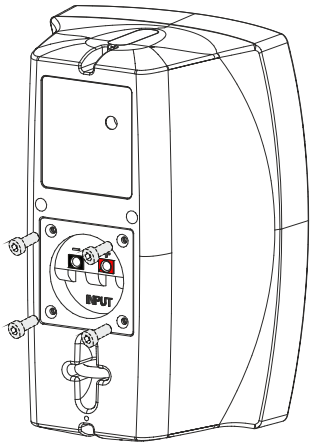


ALL DIMENSIONS IN MILIMETERS

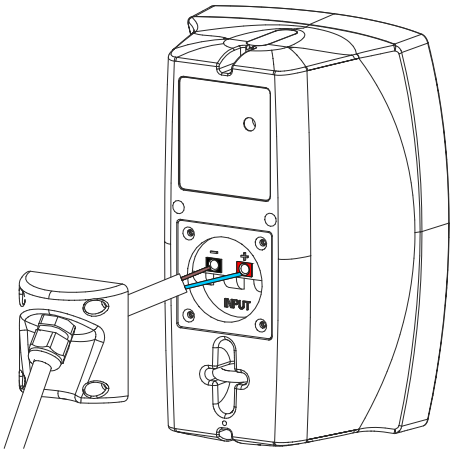
SYSTEM DESCRIPTION

The system includes 3m of connection wire ready to use in the application. If more than 3m of connection wire is required, a longer cable can be used. If so proceed as follows:

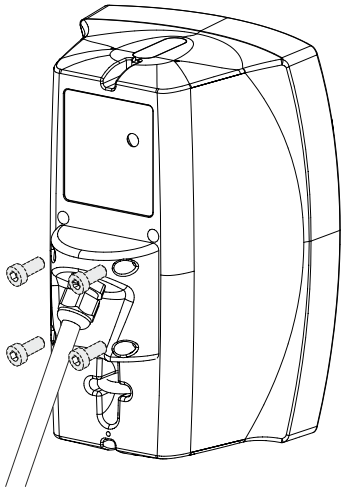
1.- Unscrew the four screws from the rear part of the enclosure, removing the existing cable.



2.- Connect the new cables and adjust the rear cover in the holes as shown. Make sure you connect the enclosure with the correct polarity.



3.- Fix the cover on the rear part of the enclosure with the four screws mentioned in the first step.



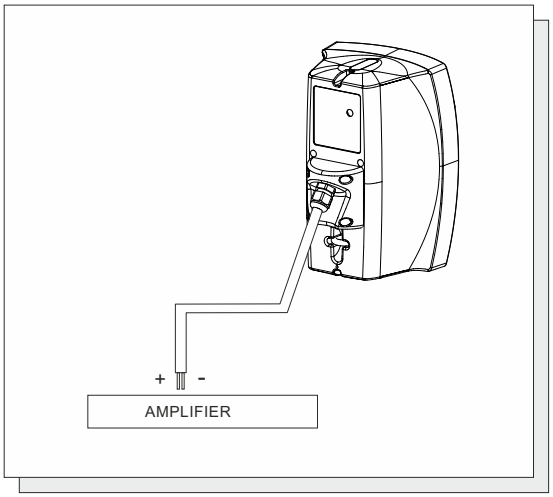
CONNECTION

Switch off the amplifier before making any connections.

Connect an amplifier output channel terminal to the enclosure's input terminals using speaker cable.

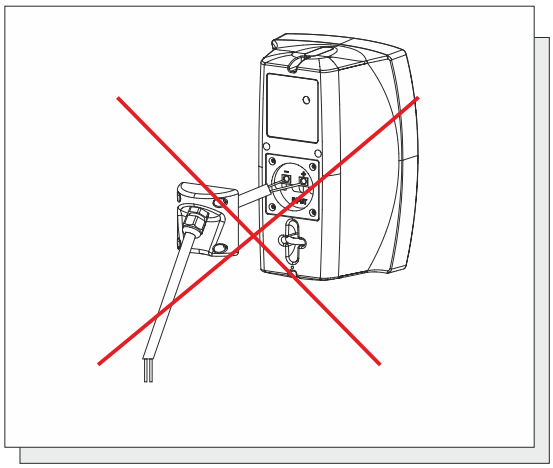
Peel off approximately 1cm of the cable's plastic jacket and insert the cable in the amplifier outputs so that the bare wire cannot be touched.

Make sure you connect the enclosures with the correct polarity.



The *VA series* provides connection area with maximum protection against water and dust, achieving an IP rating of IP-54.

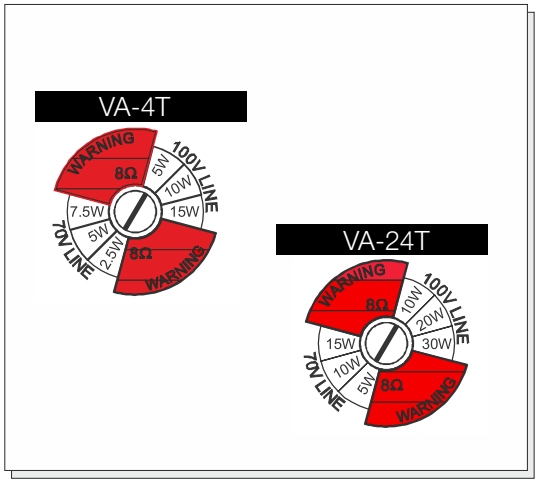
Don't remove this cover once assembled



The *VA-4T* and *VA-24T* include a transformer for use on 70V/100V distribution lines.

They can be also used as low impedance cabinets.

Use the switch to select the position that corresponds to the required power, voltage line and impedance.



Remember to choose among the different power positions of the multi-tap transformer:

For the *VA-4T*:

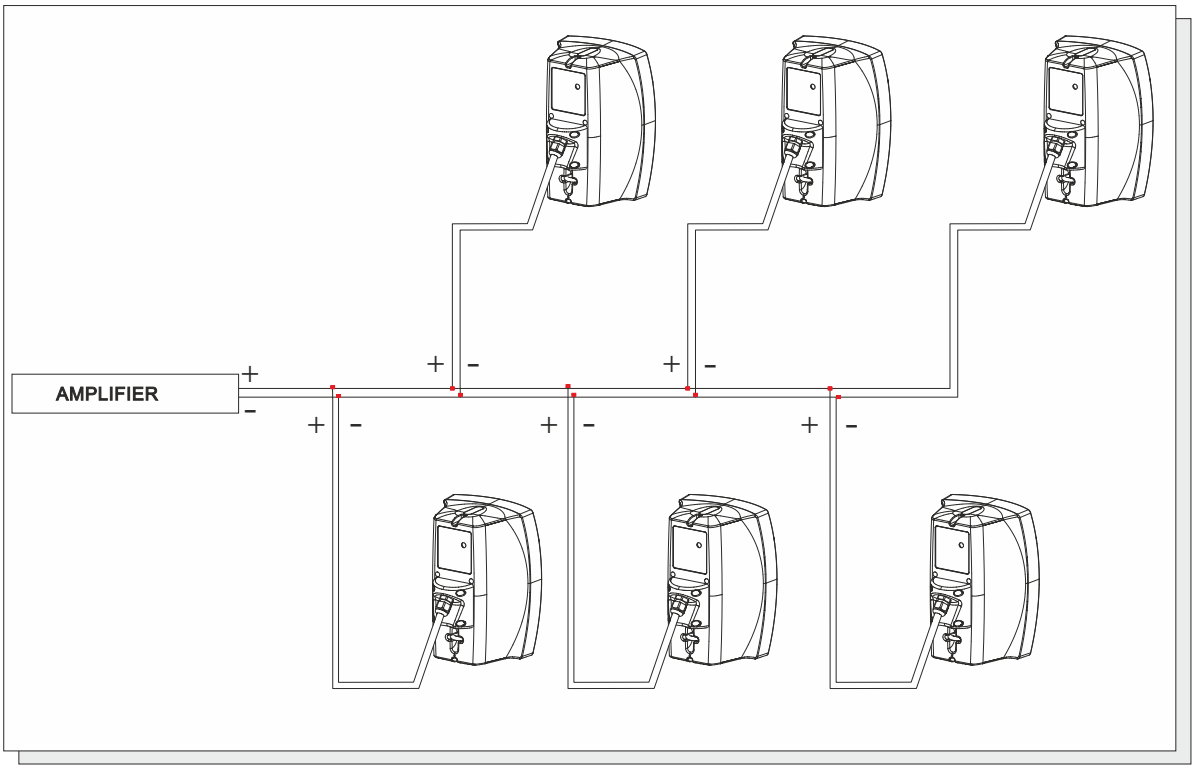
.- 8 ohms (low impedance position).
.- 5W/100V line.
.- 10W/100V line.
.- 15W/100V line.
.- 2.5W/70V line.
.- 5W/70V line.
.- 7.5W/70V line.

For the *VA-24T*:

.- 8 ohms (low impedance position).
.- 10W/100V line.
.- 20W/100V line.
.- 30W/100V line.
.- 5W/70V line.
.- 10W/70V line.
.- 15W/70V line.

Important, a line distributor amplifier should be used if the line position is chosen.

CONFIGURATION



SPECIFICATIONS

	VA-4T	*VA-24T*
RMS (Average) Power Handling[R]:	50 W	100 W
Program Power Handling[P]:	100 W	200 W
Peak Power Handling[K]:	200 W	400 W
On-axis Frequency Range (-10dB):	90 Hz - 22 kHz	90 Hz - 22 kHz
Nominal Impedance:	8 Ohms	8 Ohms
Minimum Impedance (LF):	6,9 Ohms @ 275 Hz	7,8 Ohms @ 290 Hz
Transformer Taps :	Tap0, Low Z. Tap1, 5w. Tap2, 10w. Tap3, 15w @ 100V. Tap0, Low Z. Tap1, 2,5w. Tap2, 5w. Tap3, 7.5w @ 70V.	Tap0, Low Z. Tap1, 10w. Tap2, 20w. Tap3, 30w @ 100V. Tap0, Low Z. Tap1, 5w. Tap2, 10w. Tap3, 15w @ 70V.
On-axis Sensitivity 1w/1m:	86 dB SPL	89 dB SPL
Rated Peak SPL at Full Power:	109 dB SPL	115 dB SPL
Nominal -6dB Beamwidths:	90º x 90º	80º Horizontal x 70º Vertical
Enclosure Material:	High Impact ABS	High Impact ABS
Colour/Finish:	Black or White	Black or White
Transducers/Replacement Parts:	LF: 4G/4G HF: TWT-4/TWT-4	LF: 2 x 4G/4G HF: TWT-24/TWT-24
Connector:	Spring Loaded Terminals	Spring Loaded Terminals
Dimensions (H x W x D):	21 x 14 x 14 cm 8,7 x 5,5 x 5,5 in	34 x 15 x 15 cm 17,7 x 5,9 x 5,9 in
Weight:	1,6 kg (3,6 lb)	2,6 kg (5,7 lb)
Included Accessories:	none	none
Optional Accesorios:	AXU-VA4 AXA-AC	AXU-VA24 AXA-AC

EN54 based technical specifications

	VA-4T	*VA-24T*
Nominal Power [T]:	45 W	100 W
On-axis Frequency Range (-10dB):	90 Hz - 22 kHz	90 Hz - 22 kHz
Transformer Taps:	Tap0, 8 Ohms. Tap1, 5w. Tap2, 10w. Tap3, 15w @ 100V Tap0, 8 Ohms. Tap1, 2,5w. Tap2, 5w. Tap 3, 7,5w @ 70v	Tap0, 8 Ohms. Tap1, 10w. Tap2, 20w. Tap3, 30w @ 100v. Tap0, 8 Ohms. Tap1, 5w. Tap2, 10w. Tap3, 15w @ 70v.
Nominal Impedance:	Tap0, 6 Ohms. Tap1, 1125 Ohms. Tap2, 526 Ohms. Tap3, 375 Ohms.	Tap0, 5,75 Ohm. Tap1, 700 Ohms. Tap2, 350 Ohms. Tap3, 233 Ohms.
Minimum Impedance:	4,8 @ 11,5 kHz Ohms	4,6 Ohms @ 9380 Hz
On-axis Sensitivity 1w/4m:	72,4dB at 1w/4m,	74,53dB
Measured Maximum SPL at 4m[M]:	84,95 dB	88,77 dB SPL
Horizontal Coverage Angles (-6dB):	500Hz, 360º. 1kHz, 182º. 2kHz, 113º. 4kHz, 84º.	500Hz, 360º. 1kHz, 180º. 2kHz, 133º. 4kHz, 90º
Vertical Coverage Angles (-6dB):	500Hz, 360º. 1kHz, 165º. 2kHz, 107º. 4kHz, 80º	500Hz, 147º. 1kHz, 68º. 2kHz, 46º. 4kHz, 82º
Enclosure Material:	High Impact ABS	High Impact ABS
Colour/Finish:	Black or White	Black or White
Transducers/Replacement Parts:	LF: 4G/4G HF: TWT-4/TWT-4	LF: 2 x 4G/4G HF: TWT-24/TWT-24
Environmental Type:	Type B	Type B
Environmentall Performance:	EN 60529 IP 54	EN 60529 IP 54
Connector:	Spring Loaded Terminals	Spring Loaded Terminals
Dimensions (H x W x D):	21 x 14 x 14 cm 8,7 x 5,5 x 5,5 in	34 x 15 x 15 cm 17,7 x 5,9 x 5,9 in
Net weight:	1,6 kg (3,6 lb)	2,6 kg (5,7 lb)
Included Accesories:	none	none
Optional Accessories:	AXU-VA4 AXA-AC	AXU-VA24 AXA-AC

[R]Based on a 2 hour test using a 6dB crest factor pink noise signal.
[P]Conventionally, 3dB higher than RMS measure, although this already, utilizes a program signal.
[K]Corresponds to the signal crests for the test described in [R].

[T]Nominal Power based on a 100h test using a 6dB crest factor pink noise signal filtered according to the IEC 60268-1:1985 norm and band-pass filtered with Butterworth 24dB/Oct filters from 89Hz to 11,2kHz.
[S]Sensitivity and Max SPL measured using a 6dB crest factor pink noise, averaged from 100Hz to 10kHz in 1/3 Octave bands.
[C]Coverage measured from 500Hz to 4kHz in Octave bands.
[M]Obtained by integration over a period of at least 30s.

INSTALLATION SYSTEM

Warning

This manual contains needed information for flying D.A.S. Audio systems, description of the elements and safety precautions. To perform any operations related to flying the system, read the present document first, and act on the warnings and advice given. The goal is to allow the user to become familiar with the mechanical elements required to fly the acoustic system, as well as the safety measures to be taken during set-up and teardown.

Only experienced installers with adequate knowledge of the equipment and local safety regulations should fly speaker boxes. It is the user's responsibility to ensure that the systems to be flown (including flying accessories) comply with state and local regulations.

The working load limits in this manual are the results of tests by independent laboratories. It is the user's responsibility to stay within safe limits. It is the user's responsibility to follow and comply with safety factors, resistance values, periodical supervisions and warnings given in this manual. Product improvement by means of research and development is on going at D.A.S. Specifications are subject to change without notice.

When flying a system, the working load must be lower than the resistance of each individual flying point in the enclosure, as well as each box. Hanging hardware should be regularly inspected and suspect units replaced if in doubt. This is important to avoid injury and absolutely no risks should be taken in this respect. It is highly recommended that you implement an inspection and maintenance program on flying elements, including reports to be filled out by the personnel that will carry out the inspections. Local regulations may exist that, in case of accident, may require you to present evidence of inspection reports and corrective actions after defects were found.

Absolutely no risks should be taken with regards to public safety. When flying enclosures from ceiling support structures, extreme care should be taken to assure the load bearing capabilities of the structures so that the installation is absolutely safe. Do not fly enclosures from unsafe structures. Consult a certified professional if needed. All flying accessories that are not supplied by D.A.S. Audio are the user's responsibility. Use at your own risk.

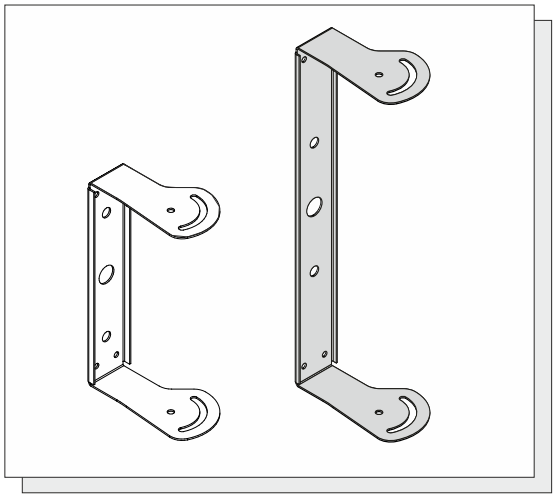
Refer to page 7 of this manual for installing the IP54kit protector.

The illustration below shows the SAFETY point rigging to ensure the correct installation.

INSTALLATION ACCESSORIES

AXU- VA4/ AXU-VA24.

Refer to the user's manual of these accessories, on our website, for more details.



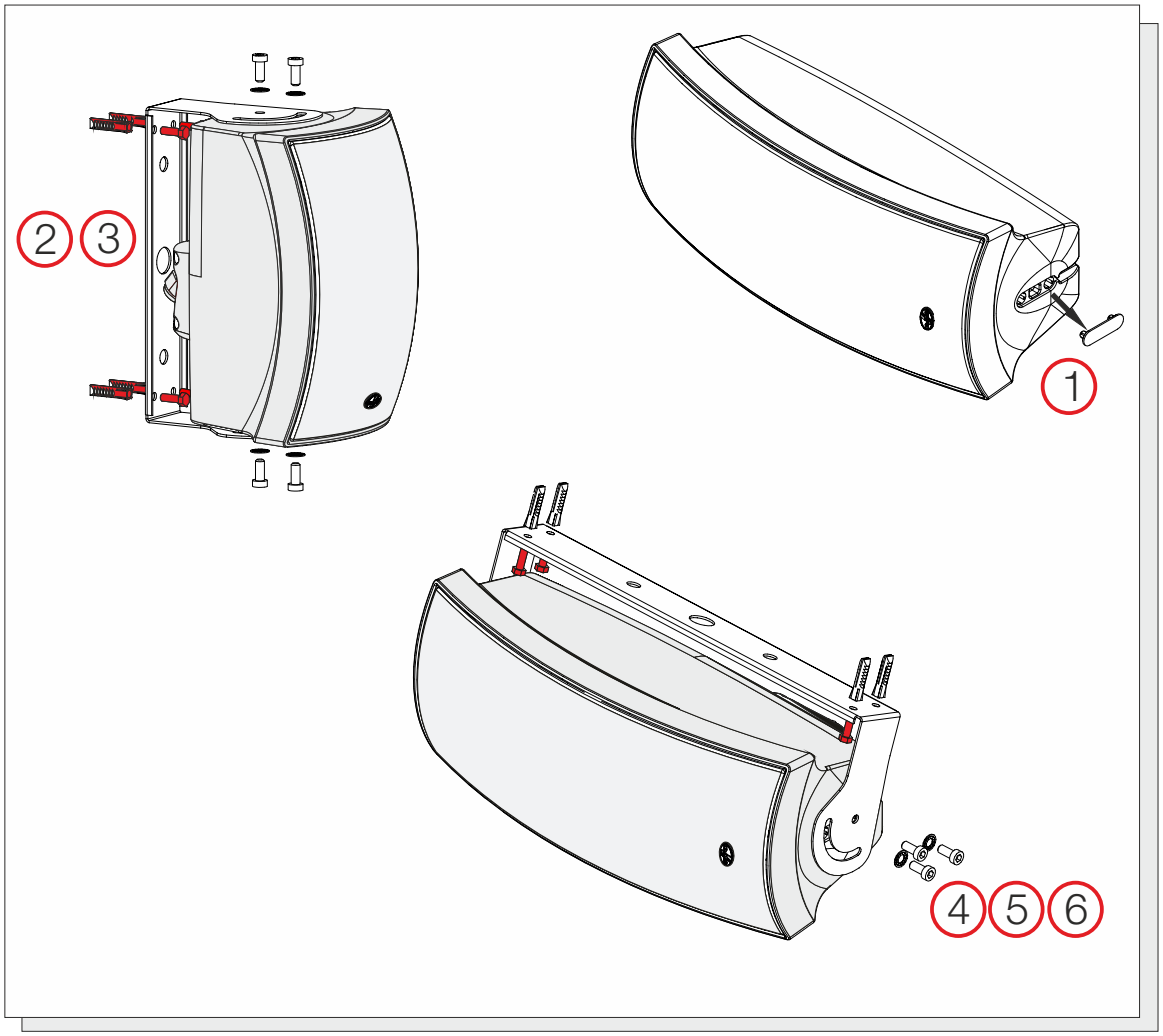
The AXU-VA "U" bracket has been designed to be mounted in a horizontal or vertical position.
It can be installed on walls or ceilings.

Mounting instructions

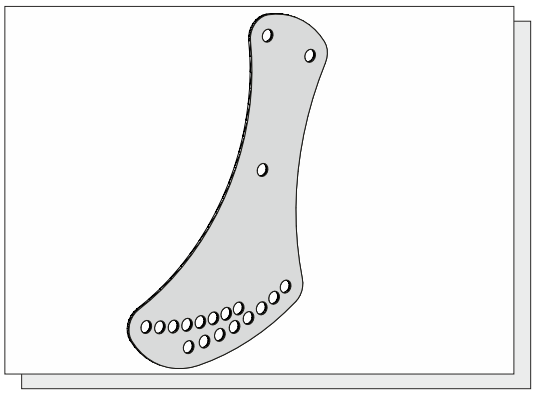
1.- Remove the cover pieces.
2.- Position the AXU support on the wall or ceiling and mark the drill holes.
3.- Drill and insert the wall plugs.
4.- Position the *VA-4T*/*VA-24T* between the arms of the support. Beware that the AXU support allows for an asymmetric arc, install in the appropriate direction.
5.- Attach the unit to the support using the screws supplied but do not tighten.
6.- Aim the unit in the desired position and tighten screws.

Package contents

4x DIN 6912 M6x12
4x DIN 7980 M6 (lock washer)
4x DIN 7505-B 5X40
4x DIN 125A M5 (flat washer)
4x wall plugs nº7



AXA- AC.



The AXA-AC bracket has been designed to set up an VA array*.
Horizontal wall mounting array:
.- maximum of 3 boxes.
.- attachment to the center box.
Vertical wall mounting array:
.- maximum of 3 boxes.
.- attachment to the bottom box.
Ceiling mounting:
.- maximum 6 boxes.
- attachment to the top box.

Refer to the user's manual of these accesories, on our website, for more details.

(*) - VA array only have the mechanical setup of an array configuration.

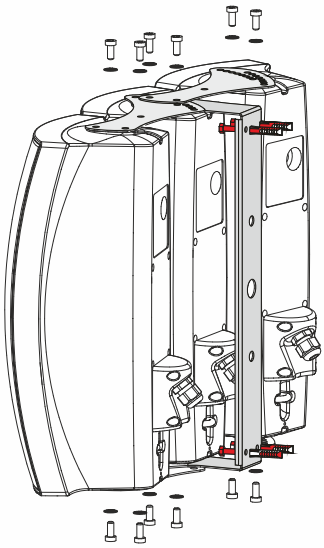
Mounting instructions

1.- Remove the cover pieces (top and bottom sides).
2.- Place the last box with the AXA-AC
3.- Insert allen screws and lock washers selecting the angles provided between 0º and 42º in 6º steps. Use the wide washer (incl) to supplement the distance between the last box and the AXA-AC.
4.- Place the next box and the new AXA-AC.
5.- Insert allen screws and lock washers selecting the angles provided between 0º and 42º in 6º steps.
6.- Repeat points 4 and 5 to add more boxes.
7.- Attach the AXU to the wall or ceiling.
8.- Place the appropriate (center bottom top) box between the support arms of the AXU-AC.
9.- Insert allen screws and lock washers.

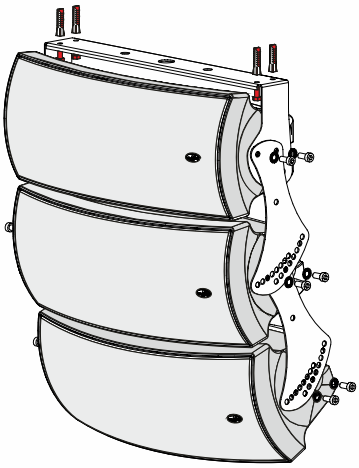
Package contents

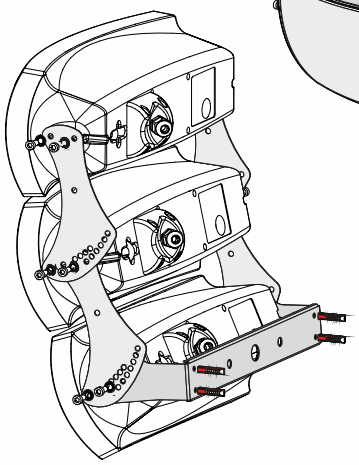
4x DIN 6912 M6x12
4x DIN 7980 M6 (lock washer)
2x DIN 9021 M6 (washer)

Horizontal wall mounting



Vertical ceiling mounting





Vertical wall mounting

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
1 - No sound from any units.	1.1 – No signal present in the amplifier	1.1.1 – Check that the amplifier is on. 1.1.2 – Check that the gain is set above its minimum setting. 1.1.3 – Check that there is a signal to your amplifier from your mixer.
	1.2 – Defective cable.	1.2.1 – Check that the cable from the sound source to the UNIT is connected correctly. Replace the cable if defective. 1.2.2 – Check that none of the connected cables are cut or frayed.
	1.3 – High number of speakers connected on the same amplifier's channel.	1.3.1 – Check the minimum impedance requirements of your amplifier.
2 – No sound from one unit.	2.1 – No signal present in the UNIT..	2.1.1 – Check that the cable between the UNITS is connected correctly. Replace the cable if defective.
3 – Poor stereo image or weak bass output	3.1 – Wrong connection	3.1.1 – Check the polarities (+/-) and be sure that all the speakers are well connected. 3.1.2 – Check the balance control on the mixer.

www.dasaudio.com

UM_VA_02_EN

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